

1        Amendments to the Claims:

2        This listing of claims will replace all prior versions, and  
3        listings, of claims in the application using (Original) (Currently  
4        Amended) (New) (Canceled) (Previously Presented) nomenclature, as  
5        recited in the below listing of claims.

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7        1. (Canceled)

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9        2. (Currently Amended) A system for communicating an analog input  
10      signal as a modulated binary laser signal over an optical  
11      communication medium recovered as a digital output signal, the  
12      system comprising,

13      a sigma delta modulator for receiving the analog input signal  
14      and modulating the analog signal into a modulated symbol signal,

15      a transmitter for converting the modulated symbol signal into  
16      the modulated binary laser signal, and for transmitting the  
17      modulated binary laser signal over the optical communication  
18      medium, the modulated binary laser signal having a pulse width  
19      having a duration representative of the analog input signal,

20      a receiver for receiving and detecting the pulse width of  
21      modulated binary laser signal for providing a received symbol  
22      signal, and

23      a digital filter for filtering the symbol signal into  
24      the digital output signal, The system of claim 1

25      wherein the transmitter comprises,  
26      a symbol to binary converter for converting the modulated  
27      symbol signal from the sigma delta modulator into a converted  
28      digital signal, and

1           a pulse width modulator for modulating the laser signal by the  
2 converted digital signal into the modulated binary laser signal as  
3 a pulse width binary modulated laser signal communicated over the  
4 optical communication medium.

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6 3. (Original) The system of claim 2 wherein the receiver comprises,  
7           a pulse width detector receiving the pulse width modulated  
8 binary laser signal and for providing a detected binary signal, and  
9           a binary to symbol converter for converting the detected binary  
10 signal into the received symbol signal.

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12 4. (Previously Presented) The system of claim 3 wherein,  
13           the pulse width detector is a pulse width quantizer detector,  
14 the detected binary signal is a detected quantized signal, and  
15           the binary to symbol converter converts the detected quantized  
16 signal into the received symbol signal.

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18 5. (Currently Amended) The system of claim 4 ± 2 further comprising,  
19           a timing recovery loop for generating a timing signal from the  
20 receive symbol signal for clocking the digital filter.

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22 6. (Currently Amended) The system of claim 4 ± 2 wherein,  
23           the sigma delta modulator is a first order sigma delta  
24 modulator.

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26 7. (Currently Amended) The system of claim 4 ± 2 wherein,  
27           the sigma delta modulator is a second order sigma delta  
28 modulator.

1       8. (Currently Amended) The system of claim 1 2 wherein the optical  
2       communication medium is selected from the group consisting of free  
3       space and a fiber optic.

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5       9. (Canceled)

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7       10. Canceled)

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9       11. (Canceled)

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11      12. (Currently Amended) The system of claim 1 2 wherein the  
12       modulated digital binary laser signal is communicated over the  
13       optical communication medium without the use of frame words.

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15      13. (Currently Amended) The system of claim 11 21 wherein the  
16       modulated digital binary laser signal is communicated over the  
17       optical communication medium without the use of frame words.

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19      14. (Currently Amended) The system of claim 1 2 wherein,  
20       the modulated digital binary laser signal is a pulse having a  
21       pulse width indicating the analog input signal, and  
22       the pulse is a laser pulse communicated over the optical  
23       communication medium.

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25      15. (Canceled)

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1 16. (Currently Amended) The system of claim 11 21 wherein the  
2 optical communication medium is selected from the group consisting  
3 of free space and a fiber optic.

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5 17. (Currently Amended) The system of claim 1 3 wherein the  
6 receiver comprises,

7 a pulse width detector for detecting the pulse width of the  
8 modulated binary laser signal laser pulses of the communicated  
9 signal and provides binary values,

10 a binary to symbol converter for changing the binary values  
11 from the pulse width detector into symbols, the digital filter for  
12 filtering the symbols for providing a clocked digital output  
13 signal, the digital filter filtering a continuous stream of  
14 symbols.

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16 18. (Previously Presented) The system of claim 17 further  
17 comprising,

18 a timing recovery loop for receiving the symbols and for  
19 clocking the digital filter for providing the clocked digital  
20 output signal.

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22 19. (Previously Presented) The system of claim 18 wherein,  
23 the timing recovery loop recovers from the symbols a sample  
24 rate to provide a clock signal to the digital filter, and  
25 the clocked digital output is an n bit digital sample of the  
26 analog input signal, the digital filter filtering a continuous  
27 stream of symbols.

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1 20. (Previously Presented) The system of claim 19 wherein,  
2 the system does not use parallel to serial conversion, frame  
3 synchronization, data reclocking, forward error correction, or  
4 significant bit reordering for generating the clocked digital  
5 output signal.

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8 21. (Currently Amended) A system for communicating an analog input  
9 signal as a pulse width modulated binary laser signal over an  
10 optical communication medium recovered as a digital output signal,  
11 the system comprising

12 a sigma delta modulator for receiving the analog input signal  
13 and modulating the analog signal into a modulated symbol signal,  
14 a transmitter for converting the modulated symbol signal into  
15 a converted digital signal for pulse width modulating a laser  
16 signal into the pulse width modulated binary laser signal, and for  
17 transmitting the pulse width modulated binary laser signal over the  
18 optical communication medium, the modulated binary laser signal  
19 having a pulse width having a duration representative of the analog  
20 input signal, the modulated binary laser signal being transmitted  
21 through the optical communication medium,

22 a receiver for receiving and detecting the pulse width of the  
23 pulse width modulated binary laser signal to provide a detected  
24 binary signal and for converting the detected binary signal into a  
25 received symbol signal, and

26 a digital filter for filtering the symbol signal into  
27 the digital output signal, The system of claim 11  
28 wherein the receiver comprises,

1       a pulse width detector for detecting the duration of the pulse  
2 width of the modulated binary laser signal laser pulses of the  
3 communicated signal and provides binary values, and

4       a binary to symbol converter for changing the binary values  
5 from the pulse width detector into symbols, the digital filter for  
6 filtering the symbols for providing a clocked digital output  
7 signal.

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9 22. (Previously Presented) The system of claim 21 further  
10 comprising,

11       a timing recovery loop for clocking the digital filter for  
12 providing the clocked digital output signal,

13       wherein,  
14       the timing recovery loop recovers from the symbols a sample rate  
15 to provide a clock signal to the digital filter, and  
16       the clocked digital output is an n bit digital sample of the  
17 analog input signal.

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19 23. (Previously Presented) The system of claim 22 wherein,

20       the system does not use parallel to serial conversion, frame  
21 synchronization, data reclocking, forward error correction, or  
22 significant bit reordering for generating the clocked digital  
23 output signal.

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